IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:	)	Docket No. DN2003076
Serge Julien Auguste Imhoff, et al.	)	Art Unit: 1733
For: POLYESTER CORDS AND THEIR USE IN RUNFLAT TIRES	)	Examiner: Justin R. Fischer
Serial No.: 10/609,165	)	
Filed: June 23, 2003	)	

Assistant Commissioner for Patents
Alexandria, VA 22313-1450

DECLARATION UNDER 37 C.F.R. SECTION 1.132

I, Yves Donckels, do declare as follows:

1. I was awarded a 5 years degree in Chemical Engineering from University of LIEGE, Belgium, in 1998. Since 2002, I have been employed by The Goodyear Tire & Rubber Company in the field of tire reinforcement research. As a result of my work at Goodyear, I have been named as an inventor or co-inventor on one (1) U.S. Patent relating to tire reinforcement. I am a co-inventor of the current application.

2. Under my control and direction, a series of 205/55R16 run flat tires were constructed using polyester cord carcasses treated with various polyester cord treatments, as shown in Table A. Except for the cord treatments, the tires were otherwise identical.

3. The run flat tires described in Table A were then tested for run flat endurance following a testing protocol wherein the tires were subjected to a runflat test to compare the tires' runflat abilities compared to the control tires. The lab runflat test, operated at 38°C, involved deflating the tires, loading the tires with an initial load equal to 65% of the tires' rated load carrying capacity, and running the tires at 80 kph. After a warm-up period of 160 km, the tire load is increased 2.5% every 40 km until the tires' runflat capacity is determined. Duplicate tires were tested for each sample with averaged results as shown in Table B.

Table A.

Sample No	Type	Polyester Cord[1] Treatment
1	Control	Non-adhesive activated yarns[2] Yarns dipped in RFL[3]/isocyanate/polyepoxide mixture after twist into cord
2	Control	Adhesive activated yarns[2] Yarns dipped in RFL[3]/isocyanate mixture after twist into cord
3	Invention	Adhesive activated yarns[2] Yarns dipped in polyepoxide after twist into cord, followed by dipping in RFL[3]/isocyanate mixture

[1] 1100 filaments per yarn /2 yarns per cord

[2] adhesive activated yarns had a polyepoxide treatment applied to the yarns by the manufacturer; non-adhesive activated yarns did not

[3] resorcinol formaldehyde resin in mixture of styrene-butadiene copolymer latex and vinylpyridine-styrene-butadiene terpolymer latex

Table B.

Sample No.	Type	Run Flat Endurance, kilometers
1	control	310
2	control	348
3	invention	375

4. The values for runflat endurance shown in Table B show a significantly higher run flat endurance for the inventive tires than for the control. Inventive Sample 3 (with polyepoxide applied both before twist as the adhesive activation and after twist) showed about 21 percent higher run flat endurance than control Sample 1 (with polyepoxide/RFL/isocyanate mixture applied after twist) and 8 percent higher than control Sample 2 (with polyepoxide applied as adhesive activation before twist).

5. In my opinion, the improvement in run flat performance as shown in Table B is significant. An improvement in run flat endurance of 8 or 21 percent is a significant

increase in run flat performance, allowing a driver to continue driving up to 21 percent further after a deflation event. This improvement is unexpected, as no previous teaching shows that an additional polyepoxide treatment after twist of the yarns into cord will result in improved run flat performance.

6. The undersigned declares further that all statements made herein of his own knowledge are true and that all statements made on information and belief are believed to be true and further that these statement are made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

Dated: October 16, 2006

Yves Donckels